Natural Resources Conservation Service (NRCS)

CP-21Filter Strips (ver. Minn. 2/07)

Landowner:

Definition

A filter strip is an area of permanent herbaceous vegetation used to reduce sediment, organics, nutrients, pesticides, and other contaminant loadings in runoff.

Purpose

Filter strips provide a buffer between fields and water bodies and allow for settling out of suspended soil particles, infiltration of runoff and soluble pollutants, adsorption of pollutants on soil and plant surfaces, and uptake of soluble pollutants by plants. Filter strips can also restore, create or enhance herbaceous habitat for wildlife and beneficial insects.

Where used

- Along streams, lakes, ponds, open tile inlets, sinkholes and select wetlands and drainageways.
- As part of a riparian forest buffer system.
- Where uniform shallow runoff can enter the strip (avoid concentrated flow).
- Where they can be installed on the approximate contour.

Conservation management system

Filter strips are effective when used in combination with other conservation practices that reduce soil, nutrient, pesticide and other material movement on the area contributing runoff to the strip. Such practices include crop residue management and nutrient management.

Specifications

Your site-specific filter strip designs are shown on the attached specifications sheet and if needed job sketch sheet. The designs were developed in accordance with Minn. NRCS Conservation Practice Standard (393) Filter Strip, dated. Dec. 2002.

Operation, maintenance and management

- Control all noxious weeds as identified by state and local laws, by: (1) treating with chemicals per label directions, or (2) spot mow before seed heads form. When possible delay use of control measures until after August 1st to protect nesting wildlife. Spot mowing must be authorized by FSA during the primary nesting season.
- Control rodent infestations that adversely affect the ground cover or the ability to carry out management activities.
- Prevent dead furrows from forming along the edge of the filter strip.
- Protect the area from haying or grazing. Fences may need to be constructed and maintained to exclude livestock and throughout all 12 months of each year.
- Avoid direct spray application and spray drift when applying pesticides on adjacent cropland.
- Do not use the filter strip for field roads, turn areas or other uses that will damage or destroy cover.
- Do not apply animal or other organic waste.
- Annually inspect the filter strip and repair any gullies that have formed. Remove unevenly deposited sediment accumulation that disrupts sheet flow. Regrade the filter strip if necessary and reseed any areas that do not have adequate permanent cover.

Mid-contract Management

- Re-level the upper 15 feet of the filter strip and filter strip-field interface every 5th year of the contract. Re-seed the leveled area if necessary.
- Implement one of the following additional management activities every 5th year of the contract.
  - Cut and remove vegetation from the strip. Adjust cutting height to leave a stubble height of 6 inches for cool season grasses and 10 inches for warm season grasses. Cut between August 1 and September 1.
  - Burn native species filter strips according to burn plans prepared by technically qualified and adequately insured individuals. Landowners and/or contractors are responsible for obtaining all necessary permits prior to burning and for complying with all applicable laws in carrying out the burning. Landowners and/or contractors are responsible for all liability related to burning.

    Landowners acknowledge that they knowingly assume all risk of injury while participating in this agreement.

- Burn strips of native or introduced species and then Interseed. Native forb and non-native legume interseeding is used to increase plant diversity in native and introduced grass plantings. Interseeding provides wildlife with a food source during the winter. It can also create excellent brood habitat for upland wildlife during the summer.
    - *This practice may be used only in conjunction with prescribed burning. Light disking is not recommended on filter strips.*
    - *The application of fertilizer is not recommended due to water quality considerations.*

Refer to Biology Jobsheet #13 “Forb and Legume Inter-seeding For Wildlife” for site preparation, seed, and seeding recommendations.

Filter Strips – Specifications Sheet (MN 2/07) CP-21

Landowner:	Tract:	Field:

Filter Strip Layout	Filter Strip 1			Filter Strip 2			Filter Strip 3		
Width (ft.) Max. Min. Avg.									
Length (ft.)									
Area (ac.)									
Slope (%) of filter strip									
Species #1, variety and seeding rate in lb./acre pure live seed (PLS)*									
Species #2 , variety and seeding rate in lb./acre pure live seed									
Species #3, variety and seeding rate in lb./acre pure live seed									
Companion crop and seeding rate (lb./acre PLS)									
Seeding dates									
Lime (tons/acre)									
N (lb./acre)									
P_2O_5 (lb./acre)									
K_2O (lb./acre)									

*Note: pure live seed (PLS) is lbs. of bulk seed x %germination x %purity. To obtain pounds of bulk seed needed per acre, use the following: (lbs./acre PLS) divided by (%germination x %purity).

Practices used to convert channelized flow to shallow sheet flow

The following practices will be installed to convert channelized runoff into overland sheet flow:

Site Preparation

Grade, smooth or fill filter strip area prior to seeding to eliminate rills and ephemeral gullies. Prepare a firm seedbed. For conventional seeding the seedbed should be worked to a depth of 3 inches and also rolled or cultipacked prior to broadcast seeding operations. Lime and fertilize according to above recommendations.

Seeding Methods

Drill grass and legumes to a depth of 1/8 to ¼ inches for conventional seeding and ¼ to ½ inches for no-till plantings. Broadcast seedings should be rolled or cultipacked immediately after seeding. If necessary, mulch seeded area with tons per acre of mulch material.

Additional Establishment Specifications

Clip or harvest companion crop after jointing but before heading. Chop rather than swath if excessive residue could smother the new seeding.

Clip or chemically control annual weeds and other competition before seed heads appear in the 1st two years of establishment. Delay clipping as long as possible to protect wildlife and do not clip cool season grasses after Sept. 1 and warm season grasses after August 1. Adjust clipping height to leave a stubble height of 6 inches for cool season grasses and 10 inches for warm season grasses. Clip in a manner that prevents a mat that will smother the vegetation.

Additional Operation and Maintenance Instructions or Comments

Landowner:		**FSA Contract Number**
Prepared by:		**Planned Application Date**
Tract Number(s)	**Field Number(s)**	**Total Acres**

Total Acres	**X** cost/acre	**= Project Cost Estimate**	X Cost Share Rate
= Estimated Cost Share Amount:			

Job Sketch or Map

An aerial view or photo of the area can be shown here.
